

WHAT IS CLAIMED IS:

1. A method for positioning a graphical component in a computer-implemented drawing program, comprising:

selecting a graphical component displayed on a display device;

5 inferring a first feature of the selected graphical component;

analyzing underlying geometry to determine one or more second features of the underlying geometry that can mate with the first feature; and

displaying feedback that indicates placement potential for the selected graphical component based on the first feature mating with one of the second features.

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2. The method of claim 1 further comprising displaying an indication of the selected first feature.

3. The method of claim 1 wherein the first feature is inferred based on a  
15 location of a cursor when the graphical component was selected.

4. The method of claim 1 wherein a key is held down during the selection of the graphical component.

20 5. The method of claim 1 wherein underlying geometry is analyzed as the selected graphical component is moved in accordance with a movement of a cursor.

6. The method of claim 1 wherein displaying feedback comprises displaying a preview of the selected graphical component in a placement position.



7. The method of claim 1 wherein the feedback comprises a set of visual positioning characters.

5 8. The method of claim 1 wherein the feedback indicates a type of constraint that will be applied.

9. The method of claim 8 wherein the type of constraint may be changed by a user.

10 10. The method of claim 8 wherein the one or more second features are limited to the type of constraint.

11. The method of claim 1 wherein the feedback dynamically changes as the  
15 selected graphical component is moved over one or more of the second features.

12. The method of claim 1 further comprising placing the selected graphical component based on the first feature mating with one of the second features.

20 13. The method of claim 12 wherein:  
the graphical component is selected when a mouse button is depressed; and  
the selected graphical component is placed when the mouse button is released.

14. The method of claim 1 wherein:



one of the second features that can mate with the first feature is inferred; and  
one or more alternative second features that can mate with the first feature may  
be selected using a keyboard.

5           15.     The method of claim 1 wherein:  
  
each of the one or more second features has a constraint type;  
  
potential mates for the first component may be limited to a particular constraint  
type; and  
  
a different constraint type may be selected using a keyboard.

10           16.     The method of claim 15 wherein one or more second features having a  
particular constraint type may be cycled through for selection using a keyboard.

15           17.     A system for positioning a graphical component comprising:  
  
          (a)     a computer system having a memory and a data storage device coupled  
thereto;  
  
          (b)     a drawing program executing on the computer system, the drawing  
program configured to:

                  (i)     select a graphical component displayed on a display device;  
20               (ii)     infer a first feature of the selected graphical component;  
  
                  (iii)    analyze underlying geometry to determine one or more second  
features of the underlying geometry that can mate with the first feature; and

(iv) display feedback that indicates placement potential for the selected graphical component based on the first feature mating with one of the second features.

5 18. The system of claim 17 wherein the drawing program is further configured to display an indication of the selected first feature.

19. The system of claim 17 wherein the first feature is inferred based on a location of a cursor when the graphical component was selected.

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20. The system of claim 17 wherein a key is held down during the selection of the graphical component.

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21. The system of claim 17 wherein the underlying geometry is analyzed as the selected graphical component is moved in accordance with a movement of a cursor.

22. The system of claim 17 wherein the computer program is configured to display feedback by displaying a preview of the selected graphical component in a placement position.

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23. The system of claim 17 wherein the feedback comprises a set of visual positioning characters.



24. The system of claim 17 wherein the feedback indicates a type of constraint that will be applied.

25. The system of claim 24 wherein the type of constraint may be changed  
5 by a user.

26. The system of claim 24 wherein the one or more second features are limited to the type of constraint.

10 27. The system of claim 17 wherein the feedback dynamically changes as the graphical component is moved over one or more of the second features.

28. The system of claim 17, wherein the computer program is further configured to place the graphical component based on the first feature mating with one  
15 of the second features.

29. The system of claim 28 wherein:  
the graphical component is selected when a mouse button is depressed; and  
the selected graphical component is placed when the mouse button is released.

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30. The system of claim 17 wherein:  
one of the second features that can mate with the first feature is inferred; and  
one or more alternative second features that can mate with the first feature may  
be selected using a keyboard.



31. The system of claim 17 wherein:

each of the one or more second features has a constraint type;

potential mates for the first component may be limited to a particular constraint

5 type; and

a different constraint type may be selected using a keyboard.

32. The system of claim 31 wherein one or more second features having a

particular constraint type may be cycled through for selection using a keyboard.

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33. An article of manufacture comprising a program storage medium

readable by a computer and embodying one or more instructions executable by the

computer to perform a method for positioning a graphical component, the method

comprising:

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selecting a graphical component displayed on a display device;

inferring a first feature of the selected graphical component;

analyzing underlying geometry to determine one or more second features of the

underlying geometry that can mate with the first feature; and

displaying feedback that indicates placement potential for the selected graphical

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component based on the first feature mating with one of the second features.

34. The article of manufacture of claim 33, wherein the method further

comprises displaying an indication of the selected first feature.



35. The article of manufacture of claim 33 wherein the first feature is inferred based on a location of a cursor when the graphical component was selected.

36. The article of manufacture of claim 33 wherein a key is held down during  
5 the selection of the graphical component.

37. The article of manufacture of claim 33 wherein the underlying geometry is analyzed as the graphical component is moved in accordance with a movement of a  
10 cursor.

38. The article of manufacture of claim 33 wherein displaying feedback comprises displaying a preview of the selected graphical component in a placement  
15 position.

39. The article of manufacture of claim 33 wherein the feedback comprises a set of visual positioning characters.

40. The article of manufacture of claim 33 wherein the feedback indicates a type of constraint that will be applied.

41. The article of manufacture of claim 40 wherein the one or more second features are limited to the type of constraint.



42. The article of manufacture of claim 40 wherein the feedback dynamically changes as the graphical component is moved over one or more of the second features.

43. The article of manufacture of claim 33 wherein the feedback dynamically changes as the selected graphical component is moved over one or more of the second features.

44. The article of manufacture of claim 33, wherein the method further comprises placing the graphical component based on the first feature mating with one of the second features.

45. The article of manufacture of claim 44 wherein:  
the graphical component is selected when a mouse button is depressed; and  
the selected graphical component is placed when the mouse button is released.

46. The article of manufacture of claim 33 wherein:  
one of the second features that can mate with the first feature is inferred; and  
one or more alternative second features that can mate with the first feature may be selected using a keyboard.

47. The article of manufacture of claim 33 wherein:  
each of the one or more second features has a constraint type;  
potential mates for the first component may be limited to a particular constraint type; and



a different constraint type may be selected using a keyboard.

48. The article of manufacture of claim 47 wherein one or more second features having a particular constraint type may be cycled through for selection using a
- 5 keyboard.